1. A distributed antenna array comprising:

a plurality of antenna elements, and

a plurality of power amplifiers, each power amplifier being operatively coupled with one of said antenna and mounted closely adjacent to the associated antenna element, such that no appreciable power loss occurs between the power amplifier and the associated antenna element;

each said power amplifier comprising a relatively low power, linear power amplifier.

2. The antenna array of claim 1 wherein each antenna element is a dipole.

3. The antenna array of claim 1 wherein each element is a monopole.

4. The antenna element of claim 1 wherein each antenna element is a microstrip/patch antenna element.

5. The antenna array of claim 1 and further including an attenuator circuit operatively coupled in series with each linear power amplifier for adjusting array amplitude coefficients.

6. The antenna array of claim 1 and further including a power splitter and phasing network operatively coupled with all of said linear power amplifiers.

7. The antenna array of claim 5 and further including a power splitter and phasing network operatively coupled with all said linear power amplifiers.

8. The antenna array of claim 1 wherein said antenna elements and said linear power amplifiers are coupled to a parallel feed structure.

9. The antenna array of claim 1 wherein said antenna elements and said linear power amplifiers are coupled to a series feed structure.

10. The antenna array of claim 1 wherein said antenna elements and said linear power amplifiers are coupled to a feed structure.

11. The antenna array of claim 10 wherein line length in the feed structure is selected to obtain a desired array phasing.

12. An antenna system installation comprising a tower/support structure, and an antenna structure mounted at the top of said tower/support structure, said antenna structure comprising:

a plurality of antenna elements; and

a plurality of power amplifiers, each power amplifier being operatively coupled with one of said antenna elements and mounted closely adjacent to the associated antenna element, such that no appreciable power loss occurs between the power amplifier and the associated antenna element;

each said power amplifier comprising a relatively low power, linear power amplifier.

13. The installation of claim 12 and further including a DC bias tee mounted on said tower/support structure and operatively coupled with said antenna structure.

14. The installation of claim 13 and further including a coaxial line operatively coupled with said DC bias tee and running to a ground-based second DC bias tee adjacent a base portion of said tower/support structure, said second DC bias tee being operatively coupled to a DC supply and an RF input/output from a transmitter/receiver.

15. The installation of claim 12 and further including a first RF transceiver and a power supply mounted at the top of said tower/support structure and operatively coupled with said antenna structure.

16. The installation of claim 15 and further including a second RF transceiver structure mounted adjacent a base portion of said tower/support structure and coupled with said first RF transceiver by a coaxial cable.

17. The installation of claim 15 and further including a second RF transceiver and a wireless link for carrying communications between said the first RF transceiver and said second RF transceiver.

18. An in-building antenna system installation comprising an antenna structure including:

a plurality of antenna elements, and

a plurality of power amplifiers, each power amplifier being operatively coupled with one said antenna elements and mounted closely adjacent to the associated antenna element, such that no appreciable power loss occurs between the power amplifier and the associated antenna element;

each said power amplifier comprising a relatively low power linear power amplifier.

19. The installation of claim 20 and further including:

a DC bias tee mounted operatively coupled with said antenna structure; a coaxial line operatively coupled with said DC bias tee and running to a second DC bias tee, said second DC bias tee being operatively coupled to a DC supply and an RF input/output from a transmitter/receiver.

20. The in-building antenna system installation of claim 18 and further including:

a fiber-RF transceiver operatively coupled with said antenna structure;

a second fiber-RF transceiver, and a fiber-optic coupling the two fiber-RF transceivers.

21. The installation of claim 19 and further including a power supply coupled to said antenna structure.